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ABSTRACT

This article provides a comparative analysis of studies in which symbolic play in children ages 1 through 3 was the major focus of a formal research strategy. The review provides readers with (1) information allowing more effective evaluation of research involving symbolic play and (2) background for designing or adopting play measurement techniques for use in their own research. The first section concerns the definition of symbolic play and sequences of development that have been empirically observed. Discussion focuses on structural analysis of symbolic play behaviors, role and object substitution in symbolic play, and planning and sequencing of pretend acts. In the second section paradigms used in the various investigations are compared and inferences are made concerning the influence of methodological choices on the results observed. Home vs. laboratory investigations, mother role in symbolic play studies, experimenter roles in play assessment, and toys and other objects are examined. The final section suggests research directions both for those who would investigate the nature and development of symbolic play, and for those who wish to measure symbolic play ability for comparison with other variables. Findings of the studies reviewed indicate that order of acquisition of the earlier types of symbolic play can be specified while sequencing of later appearing behaviors remains in question. (Author/RH)

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Methodological Issues in Studying Symbolic Play

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SYMPOSIUM: EARLY REPRESENTATIONAL SKILLS:

COMMON MECHANISMS OR DECALAGE

Biennial Meeting of the Southeastern

Conference on Human Development

A Regional Convention of the Society

For Research in Child Development

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Abstract

Since Piaget's (1962) delineation of a developmental sequence of symbolic play abilities a number of empirical investigations has examined the emergence of this behavior in children between 1 and 3 years of age. These studies contribute valuable evidence concerning this sequence. However, synthesis of the findings has been hampered by significant procedural variation across studies. Comparison between symbolic play and other variables of interest has also been complicated by uncertainty concerning the sequential nature of accomplishments in symbolic play.

The purpose of this article is to address the substantive methodological issues involved and provide a synthesis of results which clarifies what is currently known about development within the symbolic play domain. The effects of procedural differences on results obtained are considered in evaluating the contribution of each study to knowledge of the general sequence of developments.

Findings of the studies reviewed indicate that order of acquisition of the earlier types of symbolic play can be specified while sequencing of later appearing behaviors remains in question. Directions for research aimed at resolving the key questions remaining are discussed.

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It is a common observation that young children enjoy pretending at activities of familiar adults or miming the dramatic action of favorite television shows. Early childhood classrooms often include objects planned to encourage such play: dolls, small eating and cooking utensils and other household objects, and perhaps a collection of adult costumes that the young child can use to generate pretend roles. The roots of this social form of pretend are to be found in a much earlier period.

The most comprehensive theoretical analysis of the origin and development of symbolic play is presented by Piaget (1962). He views symbolic play as one form of the semiotic function, the general cognitive capacity for such symbolic processes as language, symbolic play and mental imagery. According to Piaget, symbolic play is the result of the child's constructing internal understandings of actions and objects which are then expressed behaviorally. The contrasting theoretical position, presented by El'konin (1966) specifies that symbolic play is learned by observing adults perform symbolic play acts. He indicates that no symbolic play behavior is independently constructed by the child prior to two years of age. The contrasting positions can be exemplified rather simply. Piaget's view holds that a child who pretends to feed a doll is expressing an understanding

of the feeding situation as experienced or observed in reality. El'konin believes that pretending to feed a doll can be learned only by observing some one else pretending to feed a doll. It may be that this issue defies empirical solution because of the detailed knowledge of the child's experiences which is required for its resolution.

Regardless of the origins of symbolic play, study of this behavior as a factor in the development of cognition and as a reflection of cognitive and affective status has the potential for revealing considerable information about children. In reviewing the recent work that has addressed the origins and early development of symbolic play it becomes apparent that the Piagetian approach to conceptualizing play, with its open-ended opportunities and sequential ideas, has particular advantages for guiding research. This is recognized by researchers in the field who have invariably been influenced by Piaget's work. They have, however, expanded both the methods for studying play and knowledge concerning its course of development beyond his original formulations.

In recent years there has been a renewal of interest in the study of symbolic play in young children which is partly the result of the increased research focus on subjects between 1 and 3 years of age whose primary activity is play. The search for cognitive antecedents or correlates of language development has also led researchers to include symbolic play assessment in their research designs (e.g., Lowe & Costello, 1976; Nicolich, 1975; Nicholich & Raph, 1978; Rodgon, 1976; Rosenblatt, 1977)

Neither measuring symbolic play, nor defining it is a simple matter. Weisler and McCall (1976) observe that studies of play have been hampered by "a lack of precise definitions of concepts and . . . a near total absence of comprehensive theory" (p. 492). Furthermore, if their criteria for recognizing play--that the behavior is organism dominated and intrinsically motivated--are accepted, it is apparent that formal attempts at measurement may alter the behavior so significantly that it may no longer be considered play. Despite these problems recent studies have attempted to define symbolic play more precisely and develop field and laboratory approaches for its assessment.

The purpose of this article is to provide a comparative analysis of available studies where symbolic play in children between 1 and 3 years of age was the major focus of a formal research strategy. The review provides readers with (a) information allowing more effective evaluation of research involving symbolic play and (b) background for designing or adopting play measurement techniques for use in their own research. The first section concerns the definition of symbolic play and sequences of development that have been empirically observed. In the second section paradigms used in the various investigations are compared and inferences are made concerning the influence of methodological choices on the results observed. The final section suggests research directions both for those who would investigate the nature and development of symbolic play, and for those who wish to measure symbolic play ability for comparison with other variables.

Definition and Categories of Symbolic Games

The terms pretend play and symbolic play are often used interchangeably. A first question is what makes symbolic play "symbolic"? the more advanced examples of pretending which involve joint role-play and fantasy elements, such as a moon landing or taking on the roles of animals, present obvious symbolic substitutions such as (child=astronaut or child=puppy). The case of a year-old child who "drinks" from an empty cup presents more of a definitional problem. Is this behavior symbolic at all? If so, how can it be justified as such? As research on early symbolic play has grown some definitional consensus has emerged. How symbolic play is defined is a critical influence on the selection of methodology for its study. When symbolic play is used as a variable for comparison with other emerging developmental skills such as language, sensorimotor development, or social competence, it is essential that definitional and thus methodological issues achieve a level of consensus which will allow comparison across research paradigms.

The juxtaposition of a real action and an intended fantasy provides the underlying structure of symbolic play. This dual quality is apparent from the criteria commonly used to infer that the child is pretending: (a) inanimate objects are treated as animate (caretaking of a doll), (b) everyday activities are performed in the absence of the necessary materials (drink from empty cup), (c) one object is substituted for another (shell=cat), (d) the child performs actions usually done by some one else (cooking, telephoning), (e) activities are not carried to their usual outcome (purse over ar , wave, but not

go out) (Dunn & Wooding, 1977; Fein, Branch & Diamond, Note 1). Fein (1975) claims that such pretend is defined by its transformational quality. That is, the child transforms activities from their real objectives and objects from their real counterparts. Garvey (1977) highlights the "non-literal" or unrealistic aspect of behaviors defined as symbolic play.

K. Buhler (1930) once asked if the playing child would be surprised if the stick he or she were feeding began to cry (Fein, Note 2), questioning the child's awareness of the symbolic aspect of such play. Observation of children's attitudes when playing, their satisfaction with "like" rather than real materials indicates awareness of the pretend nature of the game. One mother whose child we observed complied with the child's request to put water in the cup that she was using to give the doll a drink, using real water. The child's surprise indicated her view that "pretend water" from an empty bottle would have been just as satisfactory.

Little overt discussion has been centered on the child's playful attitude during pretend, probably a continued reaction to the supposition that attitudes cannot be defined objectively. Operational definitions and reliability studies can lead to agreement on what constitutes a playful attitude. Descriptions of the primate "play-face" (van Hooff, 1977) indicate the length to which such judgments can extend. Analysis of this type has not been undertaken with pretending two-year-olds. Some investigators avoid direct attention to the judgmental aspect of identifying pretend behaviors by listing in advance the specific activities that will be considered symbolic

play (Jeffree & McConkey, 1976; Lowe, 1975; Watson & Fischer, 1977). Unfortunately this means that unusual pretend games, or spontaneous occurrences that the researcher did not predict cannot be included in the analysis. Nicolich (1977) specifies that operationally defined evidence of pretending was identified as a first step in designating a particular play episode as symbolic. Acceptable evidence included the criteria listed above as defining pretend, as well as judgment of the child's attitude and awareness that he or she was playing a pretend game. She reports interrator reliability of .85, which compares reasonably with Jeffree and McConkey's figure of .89. Lowe does not report interrater reliability. Watson and Fischer report 100% agreement in distinguishing the occurrence of four types of object substitution.

Assessing the maturity of symbolic play has taken both quantitative and qualitative forms. A quantitative approach essentially equates all exemplars of the behavior and considers such variables as frequency of occurrence, variety of pretend acts and proportion of time engaged in pretend play. This has been somewhat fruitful in identifying gross developmental trends. Fein et al. (Note 1) reports increases in frequency between 20 and 26 months of age, but this result is modified by sex, toy-type and familiarity of the examiner. Fenson (Note 3) reports increases in frequency between 13 and 24 months. Jeffree and McConkey (1976) specified 18 "imaginative verbs" related to doll play. They found that per cent of play involving imaginative verbs, number of different imaginative verbs recorded, per cent of time spent in imaginative play and per cent of elaborated imaginative play (play including realistic details) all increased with age between

18 and 36 months. At their oldest age (two subjects 42 months old) there was a decrease in scores.

Structural Analysis of Symbolic Play Behaviors

A qualitative approach to assessing the maturity of symbolic play involves analyzing the structure of pretend acts and specifying the sequence of emergence of more advanced types. Piaget (1962) presents an analysis of the structure of symbolic games as they evolve during the second and third years of life which demonstrates his theoretical framework for the development of symbolic abilities. The dimensions of qualitative change studied in recent investigations reflect the themes elaborated by Piaget. He presents the growth of the ability to symbolize as a developmental sequence based on external imitation of a present model. Mental representation is considered to be derived from the internalization of this imitative ability. In symbolic play the underlying theme is the gradual freeing of the pretend scheme from its normal context and from the child's overt action. Werner and Kaplan (1963) also emphasize the gradual freeing of the symbol from what it represents, leading to the emergence of symbolic behavior as an autonomous medium.

The basis for pretend play, according to Piaget, is the child's knowledge of the real world of action and objects. As early as sensorimotor Stage 5 the child's appropriate use of objects outside the context of their normal use is a step toward pretend play and initial symbolism. Werner and Kaplan (1963) term this behavior "action-naming" and emphasize its recognitory properties. The child at this level will, when presented with a realistic object (cup, spoon,

comb), indicate an understanding of its use by gesture. These gestures are quite brief and appear to have a "naming" quality especially when a number of objects are recognized in succession. Piaget considers such gestures as pre-symbolic rather than symbolic.

At sensorimotor Stage 6, according to Piaget, first pretend activities occur in which the child pretends at his or her own behavior out of context. Because the symbol in such cases is the child's re-creation of activities experienced, symbol and symbolized are not truly separated. A child who drinks from an empty cup is on the brink between realism and symbolism. Piaget notes that the symbolized action is distinguished from its real counterpart only by its removal from its usual realistic context.

Following the sixth sensorimotor stage, Piaget describes Symbolic Stage I, which begins when the child extends symbolic play to pretending at behaviors observed in others (such as play telephoning) or projecting the child's own usual behaviors onto the mother or toys (such as pretending to feed mother or doll). The next structural change noted by Piaget is the prior announcement of symbolic substitution of one object for another or announcement of a pretend role before the child adopts it. El'konin (1966) also emphasizes this giving of a special name to objects in pretend. Such prior announcement can be considered evidence that the intention to symbolize was prior to the symbolic action. Nicolich (1977) uses evidence of planning, such as verbal announcement or directed search to infer such separation of intention from action. Finally Piaget observes that symbolic games become combinatorial, gradually evolving in complexity

until they re-create real occurrences (such as giving baby a bath) with great detail, involving various object substitutions. Nicolich (1977) using a narrow definition of "combination," the simple juxtaposition of two pretend schemes or the repetition of one such scheme with respect to two "actors," observed the occurrence of play combinations prior to announced object substitutions.

Piaget's conceptualization has provided inspiration for the development of ideas concerning symbolic play by several researchers. Table 1 presents for comparison several sets of developmental categories of symbolic games which were based at least partly on Piaget's sequence. The sequences as listed have all received some empirical support. Reading across the table provokes the encouraging view that a general sequence of developments in symbolic play may some day be established. Only two recent studies (Nicolich, 1977; Hill, Note 4) have specifically

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Insert Table 1 about here

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tested the sequence proposed by Piaget. These investigators based analysis of play categories on definitions and examples from Piaget (1962) with modifications to allow for reliable coding of play level from videotapes of mother-child play collected in the home. The sequence of five levels described in Table 1 was observed longitudinally in a sample of five female subjects in the second year of life (Nicolich, 1977). The same sequence (with Levels 2 and 3 pooled) was supported in cross-sectional scale analysis of the play of 30 Down's syndome subjects between 18 and 42 months of age (Hill, Note 4).

Inhelder, Lezine, Sinclair-de Zwart and Stambak (1972) working within the Piagetian theoretical framework derived their developmental categories from observations and coding of all manipulative and non-manipulative activities. Although they did not begin with an a priori set of play categories, they were trying to discern elements of organization as these evolved. Their sequence of developments as listed in Table 1 is the outcome of this analysis. Other aspects of organized play were categorized in addition to pretend. This study (originally published in French) has been the subject of a number of English language summaries (Lezine, 1973; Sinclair, 1970). Lezine (1973) presents the most detailed description of the play procedures available in English and is the source of most of the material from that study in this review.

Categories proposed by Fenson (Note 3) are the outgrowth of an earlier study in which symbolic play was considered a single category and compared to other forms of play (Fenson, Kagan, Kearsley & Zelazo, 1976). The influence of the Inhelder et al. (1972) study as well as Piaget (1962) is also apparent. Grouping objects and relating them to one another in a meaningful way are additional categories included in Fenson's analysis. Some of the Fenson categories listed in Table 1 include pretend as well as non-pretend categories. Available data have not yet demonstrated whether the proposed order can be substantiated as predicted.

It is apparent from Table 1 that certain qualitative dimensions defining structural developments in symbolic play have been proposed by more than one investigator. Table 2 summarizes

evidence for the timing of emergence of these changes derived from the available studies of symbolic play. Some of the studies began with an expected series of steps to be experimentally tested or a variation in materials or experimental procedure designed to demonstrate advances in symbolic ability. Others began with the assumption that developmental changes in symbolic play would become apparent in either cross-sectional or longitudinal study of subjects between the ages of 12 and 36 months. These studies form the basis for the analysis of qualitative dimensions of growth in symbolic play and methodological issues concerning its study presented in this article. Those which included no intervention by the examiner either to demonstrate or suggest actions with the toys are considered naturalistic, those including such demonstration or suggestion are considered experimental.

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Insert Table 2 about here

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The most common surface dimensions that have been noted in describing advanced in symbolic play are as follows: (a) role substitutions where the child moves beyond pretending at his or her own actions to either pretending at others' actions or making animate type objects or adults the focus of pretend activities, (b) the substitution of one object for another or the use of less-realistic rather than highly realistic objects in pretend, (c) planning the pretend act as indicated by either prior announcement or search for absent objects which are then used in play and (d) the sequencing of pretend acts.

Role Substitutions in Symbolic Play

When the child pretends to feed a doll or teddy with a cup that he or she previously used only for pretending to drink, a role substitution is already apparent. According to Fein (1975) when the child feeds doll or mother a direct role-reversal occurs wherein the child becomes "caretaker" and another becomes "recipient of care," the child's more usual role. An alternate way to consider this situation is that around 12 to 15 months when this behavior can often be observed the child is still insufficiently detached from the interpersonal matrix of mother-object-self (Werner & Kaplan, 1963) to differentiate these roles. Rather children recreate the activities of their daily lives in a global way, using the materials and people immediately available. In any case such play is generally recognized as an advance in symbolic play from the previous activity of pretending confined to one's own body (Fein, 1975; Franklin, 1973; Jeffree & McConkey, 1976; Lezine, 1973; Lowe, 1975, Nicolich, 1977; Piaget, 1962; Watson & Fischer, 1977; and Fenson, Note 3). Data generated by these investigators have confirmed the developmental sequence from self as focus of pretend to doll or other potentially animate toy as focus. The shift to mother as focus also follows pretend centered on the child's body. Pretending at the activities of others is considered analogous to making other objects and people play at the child's usual activities (Nicolich, 1977; Piaget, 1962). Both indicate a de-centering of play from the self. When the child pretends to feed a doll or the mother, or pretends to mop the floor as an adult might, he or she demonstrates that such schemes are now general and that a relationship between the child's

body and those of others is becoming established. Piaget considers these behaviors to be at the same level of maturity. Data are not available which can confirm this. It also remains unclear whether pretending at one's own activities continues as other forms of pretend evolve. Watson and Fischer (1977) assume that it does not. Lowe (1975) reports a decline in the frequency of self-pretend as doll-pretend emerges. Both Nicolich and Fenson report that self-pretend continues, sometimes as a part of a more complex sequence (e.g. put out cups for self, mother and doll; then have everyone drink).

Following the initial development of symbolic games involving the doll several investigators have observed that the child begins to give the doll a more "active" role in the game. That is, the doll appears to be seen as the center of its own potential action rather than merely the passive recipient of the child's pretend schemes. It is not clear whether the several investigators who mention this behavior employ the same criteria for recognizing it. Fenson (Note 3) reports that many 14 month olds give the doll a drink by placing the bottle in its hand rather than actually putting the nipple to its mouth as is done earlier. Similarly, Watson and Fischer (1977) indicate that the doll is active if it is made to hold the cup rather than the child placing it to the mouth, and if it is "walked" to the table rather than being dragged by a foot. They report that this development occurs by 24 months. In contrast, Lowe (1975) states that the doll becomes more active at 30 months; that is, it would be set up in an apparent feeding situation with utensils, napkin, etc. implying that the doll would shortly feed itself rather than having the child do the feeding.

Lezine (1973) distinguishes the active versus passive role of the doll in terms of specific actions. The doll is passive when hugged, kissed and rocked; active when fed, cleaned, and dressed. Lezine observed passive doll play first at 15 months, followed by active doll play at 19 months. A further activation of the doll is noted at 24 months which is more similar to examples presented by the other investigators. The doll is shown to be a source of independent action when the cup or mirror is placed in its hand, implying that the doll can use them.

It seems that there is less agreement about the definition and timing of the doll's taking a more active role than the shift from self-related to other-related pretend. Problems of reliability within studies and comparability across studies could easily arise from this confusion unless results are reported in terms of specific descriptions of the actions coded. Criteria for making this distinction across behaviors should also be reported in future studies.

The sequence of role substitutions described above presents a theoretically logical order, supported by available data, in which decentration of symbolic action from the child's body is apparent. The generality and sequence of the other dimensions of symbolic play is less well established.

Object Substitution in Symbolic Play

Object substitution is at once the most obvious and the most complex dimension for considering the maturity of symbolic play. There is general agreement that whenever one object is substituted for another in play, the behavior falls within the symbolic play category.

Sometimes, however, it is difficult to determine whether a given activity involves object substitution. For example, when children use "junk" material to represent something real, the symbolic substitution is obvious and often announced (e.g. "We can use grass for the vegetables." or "These stones can be the people."). Piaget (1962) considers the announced substitution of one object for another a criterion for advance to a higher level of symbolic functioning. It is more difficult in the early or transitional period to decide whether or not a play episode involves object substitution. For example, when the child cuddles or feeds the doll, should we consider the doll an object which substitutes for a real baby?

To answer this question we will consider the child's representational contribution to various types of pretend games. The earliest pretending seems to be dominated by functional and/or perceptual properties of objects which the child exploits in play. A toy cup or spoon is used to feed the self or a realistic doll; miniature grooming tools are used for combing and brushing. El'konin (1966) observes that these objects are not symbols of others. Rather, the child is symbolizing the overall situation (i.e., feeding, grooming). The game may actually have been suggested by the presence of the realistic replicas. The significance of object substitution is that the child generates a pretend scheme which is not highly dependent on present objects and then assimilates available objects to the game. In play feeding with realistic objects the child's representational contribution to the game is much less than in cases where unrealistic objects are used, or the game proceeds in the absence of objects.

When a doll is treated "as if" it could eat and drink like a real baby, the child may be responding to the perceptual characteristics of the doll which are "baby-like." In this case we need not claim that an object substitution has been made. However, there are ways in which the doll is not "baby-like," so an act of representation which overcomes some concrete characteristics of the doll is implied. The doll, which is inanimate is treated as if it were animate. In pretend play the child transforms one or more aspects of a real object or situation to suit the symbolic game.

Fein (1975) considers the transformational aspect of pretending to be its dominant characteristic. Transformations are internal representational acts which allow objects more or less like the real object to be substituted in pretend games. (Role substitutions as described in the previous section also depend on such transformational activity on the part of the child.) Fein suggests that the substitutions children are willing to make reflect their internal representations of objects. These may be global in the beginning when only the real object stimulates the child to pretend. Later the concept of a given object may be composed of a set of features or prototypical properties derived from perceptions of and experiences with objects. Fein cites the work of Rosch (1977) which indicates that adult categories or concepts are formed such that some exemplars of a class are more prototypical than others. For example, the "pea" is more a vegetable than the "tomato." Play materials can be said to vary on a dimension of more to less prototypical, based on their similarity to the realistic objects they are used to represent. For example a

stacking or nesting cup that is round is quite similar to a drinking cup, while a sea shell which has both a concave surface and a curved edge (features of a real cup) is nevertheless not globally cup-like. Fein suggests that more mature transformational activity is required to use a sea shell for pretend drinking than to use a cup-like cup. When stones are used to represent people more extreme transformations are required because all of the essential features are constructed by the child.

The extent of the child's ability to generate representational categories is implied by the extremity and variety of the transformations he or she can manage. Using a miniature spoon to feed a doll requires relatively little transformational activity and may actually have been suggested by the presence of the objects themselves. When a stick is used to feed the doll, the same stick as a brush for grooming and then as a magic wand, the child's representation is the source of the game. When the same object is employed in a number of symbolic activities and is the focus of several action schemes the child is obviously overcoming its perceptual features representationally.

In charting the developmental course of infants' interactions with objects, however, several investigators include the manipulation of objects using a variety of schemes as an immature exploratory behavior which occurs before the child is capable of symbolic play (Lezine, 1973; Fenton et al., 1976). The same investigators (and others) would conclude tht substituting a stick or a block for a telephone, or dish, or comb, would represent rather advanced symbolic play later on. The paradox is, however, more superficial than it appears. You might

observe a ten-month-old on videotape successively banging a block on the floor, pressing it to the side of his or her face and then chewing on it. A twenty-four-month-old observed involved in the same sequence of activities might perform in two different ways. First, performance could be tentative or exploratory in nature with the child attending to the effects of actions on object and the sensations generated by these actions. He or she is likely to be object-focused and uninterested in the reactions of any observers present. Alternately the child may bang the block on the floor with one hand, holding the other hand as if steadying a surface that is being hammered. He or she may hold block to ear, nodding and smiling, then pass the block to the mother, or put it to her ear insisting that she play telephone. The block may then be held "ice-cream-cone fashion," the child licking vigorously, but never touching mouth to block.

The studies discussed in this article leave no doubt that these differences can be reliably distinguished. It appears that development is proceeding in a circular or spiral pattern. First the same stereotyped schemes are applied to all objects. Later each object is treated appropriately, the child accommodating his or her actions to the object. Finally the action-scheme and object identification seem to become more separate, so the child can assimilate any of a variety of objects to the particular scheme of action he or she wishes to portray.

Several laboratory studies have been designed which compare children's play with realistic objects to play with less realistic objects (Elder & Pederson, 1978; Fein, 1975; Watson & Fischer, 1977). Both Fein and Watson and Fischer presented subjects with limited sets

of objects and modeled specific pretend behaviors for the children to imitate. Fein hypothesized that two-year olds were more likely to pretend to feed a stuffed realistic horse from a plastic cup than to feed a stick-like replica of a horse with a sea shell. She considered the latter task as involving a double transformation because the child needs to mentally transform two unrealistic objects into their realistic counterparts. (Of course the inanimate to animate transformation underlies both.) Feeding a horse-like horse with a sea shell or a stick horse with a cup were considered as single transformation pretends because at least one object was fairly prototypical in comparison with the real object it represented. Similarly, Watson and Fischer hypothesized that subjects between 14 and 24 months of age would show the ability to pretend with a realistic doll prior to the ability to pretend with "Sally the block" which was presented to them as a highly non-prototypical potentially animate agent. For both studies the progression was confirmed. Varied interpretations of this finding will be considered subsequently.

Elder and Pederson (1978) investigated "developmental differences in children's reliance on the presence of a substitute object and in the importance of similarity between the substitute object and its referent" (p. 500) in symbolic play. Subjects (24 children at each of the following ages: 2½, 3 and 3½ years) were first given a pre-test in which they named and demonstrated the use of the following objects: comb, toy telephone, plastic shovel, pitcher, hammer. They were also asked to pretend to be an animal to ascertain whether they knew the meaning of "pretend."

Subjects were then assigned to one of three substitution conditions: similar object, dissimilar object, and no object. Similar objects were of a size and shape that vaguely suggested the realistic objects described above (e.g., the telephone substitute was a bulky rectangular block of wood with a narrow rectangular block placed across it). Dissimilar objects were toys that had a distinct function of their own (e.g., a small car substituted for the shovel and a toy guitar for the plastic cup). The experimenter then requested that the child pretend at the same activities that had been done in the pretest with realistic objects, now using either the similar or dissimilar object or no object at all. For example, the substitute object representing a comb would be placed on the table and the experimenter would say "Let's pretend we have . . . a comb here. You pretend that you are using the comb" (p. 502). Results indicated that the similar condition was relatively easy at all ages and that the oldest children did equally well across substitution conditions. Comparisons of the 2½ and 3-year old's results is particularly interesting. The older subjects performed better than the younger in both conditions; and for them the dissimilar condition was easier than the no object condition. The younger group, however, found pretending with no object significantly easier than pretending with a dissimilar object which had its own appropriate function. The authors note that in the dissimilar condition the younger children became involved in the object's usual function (e.g., rolling the toy truck) and were then unwilling to use this object for the pretend purpose (e.g., as a shovel). This reflects the difficulty involved in making substitutions when the child's

representations include a fusion of his own schemes for action and the features of objects that normally support such actions. To pretend a truck is a shovel the child must overcome the perceptual features of the truck and its functional features which are still tied to sensorimotor action. In the no object condition the child does not need to overcome the meaning of a present object in constructing a pretend action. Rather the pretend action alone needs to be generated. For older children (who have object categories represented separately from their own actions) having any object available in support of the game apparently made pretending more likely.

A related finding by Overton and Jackson (1973) supports this interpretation. They report that 3-year olds when asked to demonstrate the use of a common object in its absence usually use a body part to "concretize" or represent the object. For example they used "fingers as the teeth of a comb [and] forefinger and index finger as the blades of a pair of scissors" (p. 311). Older children (age 6 or 8) were more likely to orient the hand as if performing the action with an imaginary object. That is, they would pretend to hold a comb or sciessors when performing the action. When the body part is used as the object a fusion of object and action is apparent. When the hand is oriented as if holding the object, some separation of action from object is implied. Elder and Pederson do not report the manner in which children in the no object condition performed the action. They, too, may have used a body part to concretize the object.

In the studies discussed above the object substitutions and the actions to be pretended were determined in advance by the experimenters.

Children did not have the opportunity to display their capability for object substitution in demonstrating spontaneous play behaviors with objects varying on the prototypicality dimension. Jeffree and McConkey (1976) and Fein et al. (Note 1) provided larger sets of toys (which varied on this dimension) in a free play setting. The latter study (Fein, et al.) presented the two sets of toys in counter-balanced fashion within the same play session (other activities intervening for forty minutes). A follow-up visit assessing the same dimensions of play was scheduled two weeks later. Some play suggestions were made in each session. Jeffree and McConkey (1976) provided three sessions at least twenty-four hours apart presenting the materials as follows: session one, realistic materials; session two, realistic doll and "junk" (less prototypical) materials; session three, both doll and other objects less prototypical. In both studies symbolic play was more frequent with the realistic objects. In comparing 20 to 26 month-olds Fein et al. report that although older subjects still preferred to pretend with realistic materials they did engage in more symbolic play with the less prototypical objects than the 20 month-olds.

Fein et al. were also interested in the relationship between object substitutions children made and adult categories of meaning. Prototypical and a non-prototypical objects were paired, then adults were asked to judge each pair and rate the extent to which the unrealistic object differed from its realistic counterpart. There was general agreement among adults concerning these judgments, so each substitute object was assigned a score designating how non-prototypical adults considered it to be. Children in the study demonstrated their

sensitivity to this dimension as well. Their willingness to engage in symbolic play with the substitute objects was correlated with the adult ratings of prototypicality, supporting the investigators' view that play reflects conceptual categories as coded in language.

The studies described above all systematically varied the prototypicality of the objects involved. They also included the use of modeling or play suggestion at some point in the procedure. More naturalistic studies of pretend play have usually included some ambiguous materials such as blocks, paper, etc. as well as realistic toys and replicas of household items. Subjects could demonstrate the ability to use substitute objects spontaneously by using the ambiguous materials or by employing the realistic objects in an unusual way. Such substitutions have been reported after 20 months of age (Lezine, 1973; Nicolich, 1977) but are infrequent when many realistic objects are available. Naturalistic studies report the use of absent objects beginning after the use of substitute objects (Lezine, 1973; Lowe, 1975).

Although naturalistic studies have included observation of object substitution these investigations were not designed to obtain detailed information about this behavior. Given the difficulty of deciding when to consider one object as a substitute for another data would need to include the object used and the play schemes employed so that judgments concerning the extent of the transformational activity required in the substitution could be made. This has not been done in free-play studies. It does seem apparent that the tendency to use substitute objects in pretend is a later development than such play with realistic

objects. In addition, during the early years even children who are capable of object substitution prefer realistic objects and play more imaginatively with them. Considerable development in the tendency to use substitute objects apparently occurs after three years of age.

Planning

Piaget (1962) emphasizes the prior announcement of an object substitution as indicating that the child has represented the game prior to performance. Nicolich (1977) has generalized this criterion and considers any indication of prior planning of a pretend act as evidence for the transition to a more advanced symbolic level (Table 1). Planning can be inferred from a verbal announcement by the child or by observation of the child searching for an object needed to complete the game. For example, the child might pick up the spoon and say "baby" or "feed," while the doll is in the perceptual field, and then proceed to feed the doll. Planning is indicated here by verbal announcement. Alternately, the child might pick up the doll bottle, then scan the room and begin pulling objects out of the toy bucket until the doll was found. When the doll is found, it is fed. Planning is indicated by directed search. In each case it is apparent to the observer that the child has planned the symbolic act prior to performance. The tendency to search for absent objects is first observed after the child has been pretending with available objects for several months, usually at about two years of age (Lezine, 1973; Lowe, 1975; Nicolich, 1977). In the only longitudinal study which considered this behavior its emergence varied in age from 18 to 26 months for the five normal female subjects observed (Nicolich, 1977). Like using

substitute objects, the search for absent objects indicates that the child's game is less a result of stimulus properties of present objects and more a result of his or her own invention. Such invention has the quality of representation which shows that there is a relationship between a prior mental act and subsequent overt symbolizing.

Sequencing of Pretend Acts

If the child feeds the doll, then the mother or feeds the doll then puts it to bed, some investigators consider this behavior more advanced than a single act of pretending involving a single actor (Nicolich, 1977; Fenson, Note 4; McConkey, Note 5). Piaget considers pretend combinations to be the highest representational stage of symbolic play, but the combinations he describes are much more advanced than the examples described by the other investigators. They include absent and substitute objects, prior announcement of the game and often involve two children together. Nicolich, Fenson and McConkey refer to simple juxtaposition of pretend acts with respect to one object or the repetition of the same pretend act with several objects or actors as combinations or sequences.

Fenson discusses "quasi-sequences: the performance of two consecutive acts involving a similar theme, e.g., stirring in two cups in turn, placing the respective lids on the coffee and tea pots, or placing two dolls in the same or different beds" (p. 3). This definition includes both pretend and non-pretend acts. Nicolich refers to "single scheme combinations" (Level 4.1) where the same scheme is pretended with respect to two objects or actors, e.g., feed self and mother, pretend to put two dolls to bed. Fenson's "true sequences"

and Nicolich's "multi-scheme combinations" (Level 4.2) are similar, except that Fenson includes a criterion that such sequences be logically ordered. Both involve pretending at more than one act, e.g., feed doll, put it to bed. Both investigators predicted that the single scheme forms would occur earlier than the several scheme combinations. Results are ambiguous. Fenson reports that quasi-sequences occur before sequences, but the quasi-sequence category also includes non-pretend behavior. Using the Nicolich categories Nicholich (1977) and Hill (1978) report that while single scheme combinations usually emerge first, this result is not conclusive. In both studies some subjects performed multi-scheme combinations without having performed single scheme combinations, numbers of subjects were too few and samples of behavior too brief to resolve the issue. Sinclair (personal communication) suggests that both behaviors are of equal sophistication. Investigators whose system of analysis did not specifically include combinations did observe this behavior and provide examples from their data indicating that combinations of symbolic play schemes are first observed between 16 and 20 months (Lezine, 1973; Lowe, 1975). This agrees with the findings of Nicolich and Fenson.

Summary: Qualitative Dimensions of Growth

Data concerning the development of symbolic play are still sparse, so summary description of the emergence of this skill must be rather tentative. On the basis of the findings summarized in Table 2 some trends can be suggested. It seems clear that real objects have been used for their everyday activities for some time before they are used in pretending. Before pretending to eat and drink, the child has had many such experiences in reality. Children pretend at what is known

with objects that are known. The first activities that are pretended are the care-giving experiences of everyday life. First pretends probably occur in response to objects in the environment that are "real" or highly prototypical. This initial play is bounded by object properties and object availability. The child will pretend to drink from an empty cup, but will neither use the cup as a hat nor pretend to drink in the absence of an appropriate object. Self-pretend clearly precedes pretending at others' behavior or pretending that others do the child's behavior. It is also apparent that a number of qualitative changes follow this first shift, but their sequence remains uncertain. Nicolich (1977) reports that play combinations occurred earlier than object substitutions or planned pretending. Other studies reporting anecdotal examples of play combinations also place these prior to object substitution and activation of the doll as a play partner. Further research may validate this sequence.

Activation of the doll, search for absent objects, object substitution and prior announcement of the pretend game are considered by various investigators to represent the most advanced form of symbolic play. It seems reasonable to assume that these overt behaviors are manifestations of an increased ability to symbolize internally and to separate symbolic acts from the child's own realistic behavior. Whether these emerge simultaneously or in a predictable order has yet to be determined. The recent finding of McCall, Parke and Kavanaugh (1977) that performances across imitation tasks are intercorrelated at 24 months but not prior to this age is attributed by the authors to attainment of a more mature level of

symbolic functioning. One can speculate that simultaneous advances in various types of symbolic play occurring around this age might be based on the same underlying ability. Table 2 indicates that investigators who have observed this structural change in symbolic play place these advanced activities in the 22 to 30 month age period.

A general observation made by virtually all observers of naturalistic symbolic play is that once established it becomes increasingly realistic. The child will re-enact real events, mime adult roles with great accuracy and begin to transform the props of play so that they suit the needs of the game. Pretend feeding with scraps of paper in a bowl would be preferred to feeding with no objects available. This means that pretend play comes full circle: from a knowledge of real actions with real objects through the ability to pretend in less prototypical ways, to approaching verisimilitude in play. What are the next steps? According to Piaget all of this external symbolizing has enhanced and developed the internal ability to symbolize which can now begin to serve the development of logical operations. There is some evidence that symbolic play practice by older children enhances the development of conservation (Golomb & Cornelius, 1977) and the ability to problem-solve (Sylva, 1977).

Paradigms for the Study of Symbolic Play

Part of the research interest in symbolic play is derived from the fact that play is a dominant form of activity during the early years. Unfortunately it is not convenient to study symbolic play in the context in which it occurs naturally, although several home-based

investigations have been undertaken. Tunnell (1977) emphasizes that while research is often conducted in the laboratory, the ultimate goal of psychology is the study of "real behavior." The previous section demonstrated that symbolic play has not yet been thoroughly described as a real behavior. In devising research strategies for its study, care must be taken that the research conditions allow reasonable supposition that the play which occurs in the course of research is at least similar to the natural behavior which is the real object of study.

Table 3 summarizes research paradigms that have been used in recent studies of symbolic play. An examination of this table makes it clear that comparison across studies should be undertaken with caution. Despite general consensus concerning the definition of symbolic play there has been considerable variation in the design of situations for observing or eliciting the behavior. The studies reviewed vary in setting, people present and their roles. In some cases modeling and/or play suggestions were used to elicit the behavior. The toys available and length of session also varied. Each of these dimensions of variation has a potential influence on the outcome of the research and the conceptualization of play as a variable. Few studies included attempts at examining the effects of different conditions on subjects' behavior, and those that have included such attempts have not always arranged for meaningful comparisons. These problems will become apparent in the following discussion.

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Insert Table 3 about here

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Rather than describing the individual studies separately we will focus on dimensions of variation in methodology which characterize the studies. These dimensions bear directly on the supposition that the behavior observed is likely to be similar to that occurring naturally. Results of the studies will be discussed in relation to these dimensions and inferences made, where possible, concerning the effects of such variation in method. Often these inferences are tentative because data are lacking which might resolve the issue. Implications of the following variations in method are considered: (a) use of home or laboratory playroom, (b) the people present (usually mother and experimenter) and the roles they adopt, (c) use of modeling or eliciting techniques, (d) toys and other objects available.

Home vs. Laboratory Investigation

As McCall, Eichorn and Hogarty (1977) note, when studying a relatively unknown phenomenon "a safe strategy is to begin with a context in which the behavior is known to occur" (p. 14). The most common setting for young children's play is their own home. Several studies of symbolic play have been conducted in the home in recent years (Dunn & Wooding, 1977; Nicolich, 1977; Rosenblatt, 1977; Hill, Note 4, Fein et al., Note 1). Dunn and Wooding studied the play of children in their own homes, with their own toys and with their

mothers available, either doing housework or relaxing. The other studies provided specific toys and altered the home environment by using an experimental paradigm of toy presentation (Fein, et al., Note 1) or videotaping (Nicolich, 1977; Hill, Note 4). Details of Rosenblatt's procedure are not presently available.

Several authors have suggested that pretend play appears earlier and demonstrates more mature forms in the home than in the laboratory. Franklin (1973) observes that early symbolic play such as feeding or grooming an animate type toy has its roots in the child's everyday experience. When the child begins to understand these real experiences and express them in play this is likely to occur with respect to a favorite toy. She feels that to produce the behavior on command "removed from original settings probably requires a greater degree of differentiation--of self from activity, activity from context and among components of the activity--than is necessary for spontaneous occurrence" (p. 40). Dunn and Wooding (1977) note that daily observation in the home leads to much earlier discovery of symbolic play than is usual in formal research. They cite Valentine's (1937) example of play with an imaginary object at 11 months, and at 15 months bumping the doll's head and bringing it to the mother to be kissed. The latter behavior would be coded as a two-scheme sequence, possibly with planning. None of the formal studies discussed here suggest that such sequences were observed before 18 months of age.

Bruner (1975) observed mothers bathing and feeding their babies in a home-like laboratory every two weeks from seven months of age.

He reports an example in which a nine-month old put the empty cup to the doll's mouth and seven minutes later, to the mother's mouth. This is an early example of other-directed pretend.

A few isolated examples cannot resolve the question of the effects of home versus laboratory study. Laboratories vary greatly in the extent to which a "home-like" atmosphere is created and in their efforts to familiarize the child with the examiner and experimental setting. Comparison of home versus laboratory results has not been the major goal of any available studies. Meaningful comparison between studies varying in setting is virtually impossible because the studies differ in other ways, too. For example, the only home-based study which reports a developmental sequence began at about the age that initial pretend is observed in the laboratory (Nicolich, 1977). Variations in coding procedure do not allow meaningful comparisons of onset of later levels of play.

While Fein, et al. (Note 1) did not plan a comparison of home versus laboratory approaches, they report two studies which are very similar in experimental circumstances except that one involved 20 and 26-month-olds (Study I) studied at home, while the other involved 22 month-olds (Study II) studied in a laboratory. Minor differences in toy set are noted in Table 3. Frequency of pretending (per 10 second interval) at nurturant behaviors toward the doll and instrumental behaviors such as cooking, stirring, and driving a truck were compared by sex and age. Within Study I (conducted in homes) pretending was more frequent at 26 than at 20 months of age. Twenty-two month-olds (observed in the laboratory after familiarization) pretended less

frequently than the 20-month-olds in Study I. Frequency of pretending normally increases within this age range so these results suggest that home observation may have provided some advantages. Because the study was not designed to investigate this question, this result is merely suggestive. The available data from the studies analyzed allow no inferences concerning qualitative differences between pretend-at-home versus the laboratory, and indeed, data remain sparse about the developmental sequence itself. Closely related to the choice of home or laboratory for play study is assignment of the mother's role in the research in either setting.

Role of the Mother in Symbolic Play Studies

Bruner (1975) emphasizes the importance of the mother in the child's play. He suggests that children rely on their mothers to interpret their behavior as meaningful and to provide the "scaffolding" which facilitates the evolution of shared meanings for a variety of play actions. Such meanings are then available for more advanced symbolic behavior in the domains of play and language. With the exception of studies by Lezine (1973), Jeffree and McConkey (1976) and McConkey (Note 5) the play assessments discussed here were conducted with mothers present. However, only Dunn and Wooding (1977) and Nicolich (1977) allowed the mothers to participate actively in the play session. Nicolich instructed mothers not to suggest or initiate any specific activities with the toys but to respond as naturally as possible should the child attempt to engage them in play. The mother remained with the child during the enture session. Dunn and Wooding observed the child under two conditions of mother behavior, when the

mother was doing housework and when she was free to relax. They requested normal behavior on her part. The remaining studies did not expect maternal involvement in the child's play and actively discouraged it.

Dunn and Wooding report that the child was the usual initiator of pretend sequences, but that they were rarely completed without some involvement from the mother. In fact children would seek the mother out even if she were busy in another room to engage her in pretend play or to demonstrate what they were doing. In contrast when the child was involved in manipulative or problem-solving play the mother was rarely asked to participate. When the mother did intervene in the child's object play it was usually to make a pretend suggestion.

The authors suggest that the children seek maternal confirmation of their pretend play. Such play reflects symbolic knowledge of the world as opposed to knowledge of the physical properties of objects. Children need to determine whether the symbols they create are shared. The authors note that the rituals of play are related to reality sequences (e.g., pouring precedes drinking) which can also be confirmed by the mother. Maternal attention increased the child's interest and motivation across activities. The median length of play bouts within the various activities coded was significantly greater if the mother paid attention at some point. Dunn and Wooding provide data only on the frequency of pretend without reference to specific categories. Therefore their results can not be compared to other studies where ages of attainment of more advanced types of play are reported.

Nicolich (1977) observed that maternal involvement in pretend was quite frequent. More specifically many of the children's earliest play combinations involved doing a play behavior themselves and then doing it to the mother, rather than the doll or stuffed animal. If it is desirable to assess the child's optimum level of pretend it would seem that the mother should be present and allowed to take an active role in responding to her child. Occasionally mothers ignore the instruction not ot initiate, so some episodes where the child follows maternal direction need to be eliminated from the evaluation. It is surprising how rarely the children do follow such direct suggestions from the mother. The most extended and diverse sequences and most rapid play development were observed when mothers were successful at interpreting the child's actions and responding appropriately. For example, if the child took a sip from the empty cup, offered it to the mother and the mother feigned drinking, the child might proceed to "pour" more "liquid" into the cup and repeat or extend the sequence. If the mother rejected the cup the child might or might not continue the game. It seems that the presence of a responsive mother enhances the pretend play of the child. It is possible that a child whose mother is less sensitive or responsive to play suggestions is at a disadvantage by comparison. Dunn and Wooding (1977) noted wide variation in the responsiveness of mothers to their children's overtures and speculated on the effect of this on the children's development in general. It may be that an examiner who responds to the child's play in a structured way would allow for optimal assessment across children.

Experimenter Roles in Play Assessment

The role of the experimenter can be considered facilitative, neutral or negative. Of the child sees the examiner as a "stranger" play may be inhibited; if as an adult who can provide attention, it may be enhanced. If the experimenter suggests or models play acts, pretend play may be depressed, enhanced or uninfluenced. None of the studies cited provide the experimenter with an active role in responding to the child (as the mother could in the Dunn and Wooding (1977) and Nicolich (1977) studies. The roles adopted by the experimenter include one or more of the following: (a) present the toys and either remain as a passive observer or leave the room, (b) model symbolic play acts, (c) make specific play suggestions (Table 2).

Experimenter as Stranger. Fein et al. (Note 1) report two studies, one a repeated measures design which allowed for study of "strangeness" in the experimental situation, and another which compared the play behavior of two groups of children in response to a familiar as opposed to an unfamiliar examiner. In Study I the experimenter first presented the child with the toys and remained passive for two minutes. During the following eight minutes she indicated the appropriate props and made five play suggestions (e.g., "Dolly wants to go for a ride. Please take dolly for a ride.") Next additional tasks were presented for forty minutes. Finally a similar 10 minute play session using a different set of toys was conducted. A second experimenter was present, recording the child's behavior during the entire session, but did not interact with the child. In a follow-up visit two weeks later, the experimenters reversed roles for half of

the subjects (unfamiliar condition) and repeated their initial roles (familiar condition) for the other half. The frequency and variety of pretend was compared for both of these conditions. Pretending was more frequent and varied in the second play session of each visit, but the familiarity condition produced no differences in pretend play frequency.

The within-session results indicate that as the child becomes more accustomed to interacting with the examiner, pretend play becomes more frequent. Within a session, subjects engaged in more pretend play during the later toy presentation despite possible fatigue after an hour's observation and testing. Results comparing play across sessions separated by two weeks are more ambiguous. Because the same experimenters visited the subjects on both occasions the familiarity conditions differed only marginally. Children had an equal opportunity to observe both examiners although only one interacted with them presenting toys and making play suggestions. In Study II, which followed a similar format, the "familiar" experimenter had visited the child monthly for seven months, while the "unfamiliar" experimenter had visited the child only once, one month prior to the experiment. Children produced more frequent and varied play in response to the familiar adults. It appears on the basis of this study that frequency and variety of pretend are enhanced by the presence of a familiar versus an unfamiliar experimenter. Studies have not assessed the frequency or maturity of solitary pretend play in comparison to play in the presence of a passive but attentive adult. Results from studies varying in this dimension cannot be compared because of

differences in response measures.

The studies by Fein et al. (Note 1) discussed above involved the experimenter in making specific play suggestions to the child. What effect does such encouragement to pretend and/or modeling of pretend acts have on the child's pretend play? Half the studies cited in Table 3 involve one or both of these experimental strategies. The relationship between the child's play in this situation in comparison to spontaneous play is probably the most controversial issue involved in symbolic play study. Some investigators believe that modeling or suggestion is needed to elicit pretend in the laboratory (Watson & Fischer, 1977). Others believe that children's behavior in response to modeling or instruction no longer fits the definition of symbolic play (Bax, 1977; Franklin, 1973).

Modeling. Interpretation of results from studies involving modeling is hampered by the lack of certainty concerning the sequence of development of spontaneous pretend behavior and limited knowledge of the developmental sequence involved in learning to imitate. In addition the relationship of any imitated behavior to its spontaneous counterpart is uncertain. In language studies of children at this age imitative utterances are typically deleted or submitted to separate analysis. Bloom, Hood and Lightbown (1974) and Nicolich and Ralph (1978) found that children imitated a different population of lexical items from those they used spontaneously. Words were first imitated and later became part of the spontaneous lexicon. Franklin (1973) notes that there have been no studies of children's comprehension of the enactive gestures of others. We cannot be sure of the extent

to which subjects' response to a model is dominated by (a) their comprehension of the model and (b) their willingness to perform as expected. Spontaneous imitation in language is often reported to focus on models that are moderately discrepant from the child's own spontaneous performance and may be only partially understood (e.g., Smith, 1970).

McCall, Parke and Kavanagh (1977) present inferences concerning the development of imitation between one and three which provide a framework for considering the modeling strategies employed in the study of pretend play. They suggest that what infants are able to imitate is partly a function of cognitive development, while what they choose to imitate may involve such motivational factors as the social context and the child's goals at the time. With respect to symbolic play it is uncertain whether symbolic play in response to a model or suggestion bears the same relation to the cognitive or affective state of the child as spontaneous occurrence of the same behavior.

McCall et al. also emphasize the importance of distinguishing behavior in response to a simple model from that in response to a verbal request, and from spontaneous display of the same behavior. The age of the subjects is also relevant. Most subjects in the studies to be reviewed in this section were between 18 and 24 months of age. For this age group McCall et al. found that target behaviors were more likely to occur after modeling. In addition, more target behaviors occurred if the child was instructed to perform as well as observing a model. At 36 months of age instruction to imitate had the opposite effect, leading to fewer target behaviors.

Imitation of a coordinated sequence of actions was found to be more difficult and later-appearing than simple gestural and vocal imitation. Children below 18 months of age were not successful at imitating sequences. At 18 months 24% of subjects were successful and at 24 months, 59% could perform imitation of coordinated sequences. This is of interest in view of the fact that sequencing of pretend acts is considered a milestone in symbolic play. In relation to the McCall et al. findings it is unclear whether imitating a symbolic play sequence is of the same difficulty level as imitating a coordinated motor sequence. Symbolic play studies involving modeling have not explicitly examined the occurrence of play combinations.

In support of a modeling approach Fein (1975) states that the use of modeling to elicit pretend has "a two-fold purpose: to establish the initial pretend situation and to delineate substitution categories for the children" (p. 293). Watson and Fischer (1977) claim that modeling is necessary because "no method has been available that reliably elicits a systematic sequence of pretending" (p. 828). They also note that "the lack of experimental control over spontaneous play is a problem" (p. 829). Studies cited in Table 2 indicate that developmental sequences <u>can</u> be observed using a free-play paradigm (Lezine, 1973; Lowe, 1974; Nicolich, 1977; Fenson, Note 3), although there has been insufficient research to establish the sequence completely. Lack of control over spontaneous play remains a problem, which is not necessarily resolved by the addition of an imitation condition. However, if modeling increases the frequency of pretending in general, it should make the observation of codable behaviors in a

variety of symbolic play categories more likely.

Four of the studies included in this review include a modeling and/or play suggestion phase. While comparison of spontaneous to elicited pretend was not the major focus of these studies, they allow some comparisons. Fein (1975) in her investigation of children's willingness to feed a toy horse when more or less-prototypical objects were available included a 10 second pre-modeling phase prior to each of several modeling and post-modeling trials. She found that modeling did not lead to a display of higher level behavior. Pretending varied as a function of prototypicality both before and after modeling. Pretend feeding was the only behavior assessed, and the number of objects was severely limited. Different results might obtain in a more diverse play situation. Although separate trials involving modeling and modeling in addition to suggestion are described, results are apparently pooled so the separate effects of these conditions cannot be examined.

Jeffree and McConkey (1976) conducted a study including 10 normal subjects which allows comparison of spontaneous pretend play and pretend play in response to a model who performed several doll-related behaviors. Despite the small sample size the results are of interest because they relate to several issues concerning pretend play in response to a model. Each experimental session included three phases, five minutes in length. First the child engaged in free play with a doll and related props as the experimenter observed. Next the experimenter used a doll identical to the child's to model the following doll pretend behaviors: walking, waving, putting to bed and

covering with a sheet, giving the doll a drink from a cup with the doll holding the cup. In the final five minutes the experimenter returned to the role of passive observer. Two additional experimental sessions were conducted on following days with varying toy sets. The authors report an increase in the frequency of pretending during and after modeling for normal subjects.

Two other measures, those most highly correlated with developmental age were unaffected by modeling. These were the number of different imaginative acts recorded and the percentage of the child's actions which were coded "elaborated imaginative." This category involves more detailed enactment of play such as feeding the doll by tilting the spoon and then carefully wiping the mouth with a napkin. This is the only example provided by the authors. Since elaborated pretend is more mature than simple pretend this might suggest that children do not advance beyond their developmental level in response to a model. However, the modeled behaviors were all likely to be part of the repertoire of the more mature subjects so this may represent a ceiling effect. The single example of elaborated pretend is actually a sequence (feed doll, wipe mouth). If elaborated acts tend to be sequences this could reflect the greater difficulty of imitating sequential behaviors.

Watson and Fischer (1977) designed a study where play acts were modeled to determine whether a developmental sequence of "agent use" would be demonstrated. They used a 3 minute familiarization period in which subjects could play with the six toys which were then used to model specific actions. The modeled actions were "eat," "wash,"

and "sleep." The agent performing the action was either self (the experimenter fed himself), a gingerbread doll or a block. The experimenter describes the modeled actions but did not suggest that the subjects imitate. Following modeling the experimenter left the mother and the child in the playroom and the child played with the toys without intervention. The authors report no pretending during the familiarization phase, which is not surprising considering both its brevity and its occurrence immediately after the child's arrival at an unfamiliar laboratory. Three control subjects who experienced the entire experimental procedure in the absence of modeling were also observed. None of these subjects engaged in any spontaneous pretending, which is unusual in comparison to the other studies. It may be that the particular objects included were not appealing to the children. Neither of the dolls described is a baby doll which frequently elicits cuddling, grooming, and feeding. There was no comb, brush, or spoon, all of which normally elicit self-related pretend. One would have expected the plastic cup to be used for pretend drinking. After modeling, subjects engaged ir varied pretend including both modeled and novel acts. This study is not helpful in comparing pretend in response to a model to spontaneous pretend because of the brief pre-modeling phase. The authors report that children who performed higher level play imitations such as using the block as an agent were less likely to imitate low level pretend where self was the agent.

Suggestion. Suggestion or request is another strategy for eliciting pretend that has been used separately as well as in conjunction

with modeling. Fein et al. (Note 1) provided subjects with a variety of toys including a doll and related objects (Table 3). Following familiarization in which the child showed a willingness to interact with the examiner there were a 4 minute free play session and two 4 minute play suggestion sessions. The experimenter made suggestions for pretend play with (a) highly prototypical and (b) less prototypical objects. The investigators included a compliance measure (the frequency with which subjects performed the suggestion action within 30 seconds of its presentation) for comparison with the frequency and variety of pretend play overall. Pretending was more frequent in the initial session, prior to suggestion than in the sessions including play suggestions. The frequency and variety of pretending in the suggestion sessions were dependent on whether the experimenter was familiar or unfamiliar, and whether the toys were more or less prototypical. The "familiar experimenter-highly prototypical toys" combination elicited the most frequent and varied pretend. Children tended to withdraw from the situation when a stranger made suggestions for pretend with only less-prototypical objects available. This may reflect a motivational aspect based on the child's interpretation of the social context (McCall, Parke & Kavanaugh, 1977). This result is reminiscent of Dunn and Wooding's (1977) suggestion that the child uses pretend play to express hypotheses about the symbolic understandings he or she is developing, seeking confirmation of such spontaneously generated pretend schemes from the mother. It may be that bizarre play suggestions from a stranger are uninterpretable and anxiety producing to the infant, leading to the observed inhibition of

the tendency to pretend. Fein et al. question the interpretation that pretend in response to suggestion represents the most advanced behaviors of which the child is capable:

> Although children could enact a difficult transformation when it was proposed to them, they did not make it their own. At 22 months of age, compliance behavior did not extend beyond the immediate response to specific suggestions. The pattern of internal correlations also suggested that compliance with adult suggestions is only a temporary accommodation. Children who complied with the adult's suggestions for use of the less prototypical toys did not, in general, show a rich or varied pattern of pretending with either toy set. (p. 4)

Watson and Fischer report that children who imitated modeled play at the most advanced level, where a block performed an action, tended to omit the lowest level (self-pretend) and occasionally passive doll pretend from their play. The authors consider this to indicate that play in response to a model is focused on acts at the children's highest level of competence. This is in contrast to Fein's results concerning modeling and to Fein et al.'s (Note 1) interpretation of a similar behavior pattern in response to suggestion. It is possible that rather than indicating higher level pretend, such imitation may be interpreted as a response to mildly discrepant models as is the case in language imitation.

In attempts to elicit the modeled behaviors by suggestion, Watson and Fischer found that responses were even more highly concentrated on "higher level" responses. Rather than a direct request

such as that used by Fein et al. (Note 1) ("The dolly wants to do X. Can you make the dolly do X?") Watson and Fisher used instructions such as "Show me what I did with Sally the Block." They rightly note that this is as much a memory task as a symbolic play task. Only 22 of their 36 subjects responded to any such requests. It is notable that such extreme object substitutions in spontaneous play are rarely reported. It may be the bizarre quality of such acts and their description by the experimenter which helped the children to recall what the experimenter had done in the substitute agent condition. It is unclear whether such behavior should be interpreted as defining a higher level of symbolic play.

In summary, Fein's belief that modeling establishes a context for pretend is supported by the fact that several studies note an increase in pretending after modeling. The fact that modeling is not essential to observing pretend play in the laboratory has also been amply demonstrated. Whether the level of pretend observed is increased by modeling remains unclear. The independent role of suggestion seems to be an inhibition of frequency of pretend and a shift in the direction of the most "mature" or "unusual" behaviors. Without more careful delineation of the upper levels of spontaneous pretend play and research comparing spontaneous play with responses to modeling and suggestion it is impossible to determine whether subjects are responding to the novelty of the instructions or to a match between more mature actions and their own competence. Fein et al. report that when the objects were nonprototypical and the experimenter unfamiliar, pretending was depressed. Watson and Fischer note that the suggestion

condition led to less frequent pretend than modeling, but included the mother in attempts to elicit the target behaviors, subjects' inhibition in the face of extreme transformations may have been overcome. Fein et al. (Note 1) report that when the child's overall performance in symbolic play is considered, a better index of the general tendency to pretend is obtained in response to instructions involving minor rather than extreme transformations.

Toys and Other Objects

Young children's play is greatly influenced by the objects that are available. Initial pretending appears to be more a response to object properties and an expression of the child's understanding of his or her own activities than a result of original invention. It is clear from data presented earlier that pretend play in the second and third year of life is more frequent and varied if realistic rather than ambiguous objects are used. Some research has indicated that objects are sex typed as early as 20 months of age (Fein, Johnson, Kosson, Stock & Wasserman, 1975). This issue must be considered with respect to the influence of objects available on children's pretending. The number and kinds of objects available and their manner of presentation are also of interest.

Studies of symbolic play frequently emphasize caretaking or nurturant behaviors toward the doll. Would this lead to lower frequencies of pretending on the part of boys who may already view caretaking and dolls as female sex-typed? Fein et al. (Note 1) compared boys and girls in their frequency and variety of nurturant versus instrumental pretend and frequency and variety of pretend play with specific

objects usually considered "girl toys" and "boy toys." For the comparison of pretend activities, nurturing was defined to include the following doll and self-related activities: showing affection, bedding, feeding, and wiping clean. Instrumental activities were drive, stir, pour, and cook. Since objects could be used in other ways as well, pretend with specific objects (truck, doll, eating utensils, telephone, bedding) was compared separately from activities.

Girls performed more nurturing behaviors at 20, 22 and 26 months of age than boys. At 20 and 22 months both sexes performed more nurturing pretends with realisitc toys, while at 26 months boys showed greater frequency with less prototypical toys. There were no differences at any age in instrumental behaviors which were due to the main effect of sex. The sexes did differ in response to the prototypicality of the objects. Boys performed fewer instrumental activities with low prototypical objects at the earlier ages than girls did, but by 26 months this difference was no longer apparent. The authors suggest that sex differences in response to object prototypicality in these activities are based on a cognitive advantage of girls at the earlier ages. Girls are more able to project pretend schemes with low prototypical objects at 20 and 22 months, while at 26 months boys have grown to equal girls in this ability. The authors suggest that the boys' shift in preference to low prototypical toys in nurutrant activities at 26 months is an effect of the realistic doll becoming sex-typed at that age.

Based on their analysis of object use the authors report that sex differences observed could not be accounted for by societal

conventions concerning objects appropriate for each sex. Although the girls played with the doll more frequently than the boys, the boys did continue to play with the doll through 26 months of age. However, they focused less on nurturing behaviors than the girls. They might spank the doll or give it a ride rather than feed or dress it. Sex as a main effect did not influence pretending with any of the other objects. The authors conclude "if toys are sex-typed at all at these early ages, the typology is one-sided--there are 'girl toys' and "everybody toys'" (p. 44). Boys play less with the doll and perform fewer nurturing activities, while girls do not show the same avoidance of trucks and instrumental activities.

Two approaches to using symbolic play for assessment purposes emphasized doll play (Jeffree & McConkey, 1976; Lower & Costello, 1976). The former (Jeffree & McConkey) involved a small sample of subjects and sex differences were not examined. While Lowe and Costello do not provide separate norms by sex in their manual, the original report of this study (Lowe, 1975) indicated sex differences beginning at 21 months. Toy set III (Table 3), which emphasized nurturing behaviors, elicited more mature pretend from girls; while toy set IV, emphasizing instrumental activities, led to more mature pretend from boys. Authors of the manual (Lowe & Costello, 1976) indicate that separate norms by sex would have resulted in increases for girls of "less than 1 score point" (p. 16) so apparently the effects of the different toy sets balanced in the overall score.

The question of sex differences in pretending is one that remains unresolved. It is an important research area, particularly

in light of hypothesized relationships between symbolic play, cognitive development, and language. Any assessment procedure to be used with both sexes should include objects and situations not inhibiting to boys. Fein (1975) reports no sex differences in two-year-old's willingness to feed a toy horse, so perhaps provision of animate-type toys other than dolls is one way of avoiding sex bias in assessing pretend. Hill (Note 4) found no sex differences in level of pretending with a varied toy set which included a monkey and a typical baby doll. The influence of specific objects in this study has not been analyzed.

As the number of objects included in the assessment session increases, the number of potential behaviors on the part of the child expands, and the difficulty of coding increases. Lezine (1973), Nicolich (1977), and Fenson (Note 3) provided a larger number of toys than the other investigators considered. What justification is there for these more complicated procedures? One impetus for providing a rather large toy set is that child's play at home in the second year typically evolves around the toy box, toy shelf, or collection of play objects rather than focusing on a single set of interrelated toys as the only available objects. It seems an ecologically sound approach to provide the child with the opportunity to select and interact with toys in a way usually occurring in everyday life.

Furthermore, the stages of symbolic play observed by Piaget (1962) are more likely to be observed in response to a varied toy set. Lezine, Nicolich and Fenson were all interested in observing such qualitative changes in pretending rather than considering frequencies of specific behaviors. In order for play combinations to

be observed a variety of objects should be simultaneously available. For example, the Lowe and Costello (1976) toy sets are each presented separately. This means that it would be difficult for a child to enact a varied sequence such as, feed doll, take doll for a ride, put doll to bed. Such sequences are criterial for level 4.1 play as defined by Nicolich. Fenson's approach also emphasizes the development of integrated sequences of play.

If it is desirable to study pretend in the context of other types of play, it is important to include manipulative toys and books as well as objects which elicit pretend. Some investigators have included two or more varied exemplars of a particular toy type to allow for the display of spontaneous matching or classificatory behavior Nicolich, 1977; Fenson, Note 3). With the opportunity for various types of play provided, pretending can be seen in the context of other typical activities the child chooses. It is possible that too many toys will lead the child to focus on exploratory behavior rather than play. In the longitudinal study by Nicolich (1977) children tended to go through the available toys at the beginning of each session even after several monthly opportunities to play with the same objects. Sometimes they would complete this initial exploration, survey the toys surrounding them, and then choose the objects for their play. Or, they might play at length with some toy, set it aside and return to exploring the toy set. As each play activity was exhausted, it seemed that either a new episode would spin off from the old, or there would be another pause and survey before a new activity began.

Two cautions are in order if a large toy set is used. First, the session length needs to be sufficient for both exploration and play to occur. Second the characteristics of the subjects may mean a smaller number of toys should be used. Pilot work from Down's syndrome subjects (Hill, Note 4) showed that they tended to perseverate with manipulative behaviors, so fewer manipulative toys were used than had been originally intended. In addition because their ability to select toys for play seemed limited, during the last half of the 30 minute session, the doll, monkey, truck, feeding and bedding objects were placed before the child on the inverted empty toy basket.

Consideration of the various methodologies indicates that a standard set of play objects is emerging fro studying the naturally occurring pretend play of the 1 to 3 year old. These are as follows:

doll (one or more) with removable clothes

for bedding: bed or box, blanket or cloth, pillow

for feeding and cooking: doll bottle, spoon, cup, dish, pot and or pitcher

for grooming: comb, brush, mirror

for cleaning: mop or broom, scrub brush or sponge

large truck

smaller truck, with small driver

teddy or monkey in case boys inhibit with a realistic doll

telephone

junk such as papers, sticks, blocks to allow for object substitution it the subject is ready.

Additional objects can be incorporated if a situation less biased toward pretend behavior or more amenable to varied or unique symbolic play is desirable. If the Nicolich (1977) approach is used, where the focus is on the structure of pretend rather than reactions to specific objects, children's unique responses to objects not usually associated with pretend can be coded. For example in this study a small tool box with plastic tools and pegs representing screws and nails allowed study of problem solving because of its complicated latch, and the difficulty of putting the pegs in place. Additionally one child used the wrench as a nail clipper, and several fed dolls with the pegs. Seriated cups included in this study allowed for similar multiple use by the child. In general, object choice is a critical methodological variable which should reflect the goal of the research.

Symbolic Play: Directions for Research

Two major questions need to be addressed in the study of symbolic play. First, is there a general sequence of qualitative developments in pretending? Second, what is the place of symbolic play in relation to other areas of development? Larger samples of subjects need to be studied if these questions are to be settled. A survey of recent literature indicates that the effects of various methods of study on the behavior itself also need to be investigated. Movement toward an empirically based theory of symbolic play in relation to other semiotic activities and to development in general requires a sorting out of methodological issues and an elucidation of the development of spontaneous pretending. Therefore researchers who wish to compare

symbolic play with other variables should exercise caution in selecting a technique for its measurement.

Assessing Symbolic Play as a Natural Behavior

As research concerning pretend play grows it is well to keep in mind the goal of studying the "real" behavior. Tunnell (1977) discusses three dimensions of naturalness which influence whether the real behavior is the object of study in a given research paradigm: the behavior itself, the setting, and the treatment. The behavior is natural is it "is part of the person's existing repertoire" (p. 426). The natural setting refers to the place where the data are collected. The setting is natural if data are collected in the place where the participants are normally located. The treatment is natural if it is an event which would have occurred independent of the research. If these criteria are applied to the studies described in this article, only Dunn and Wooding (1977) conducted a natural study. The other projects all involved some rescheduling or modifying of the natural dimensions. Judgments can be made about how likely it is that results of a given study can be generalized to permit inferences concerning the "real" behavior.

If the behavior occurs under simple conditions of observation with adequate familiarization to the observer and without modeling or suggestion, it is apparently as close as possible to the real behavior. As noted earlier, when children respond to unusual play suggestions or models the behavior is difficult to interpret. Future studies should include sufficient opportunity for symbolic play to occur spontaneously for comparison with elicited responses.

If the setting is not the home, the natural setting for play, how closely does it resemble a "home-like" situation? Both the physical and social environment should be considered. Familiarization to examiner and setting are essential aspects of the procedure (Fein et al., Note 1). The treatment in studies of play may involve observation and simple presentation of objects, or the inclusion of modeling and/or play suggestions. The naturalness of the treatment is enhanced by the provision of objects young children would be likely to encounter in their play, and the presence of a familiar adult. Since children do not play on schedule providing a sufficiently long session to offer time for a variety of play behaviors to occur may be critical.

It can be seen in Table 3 that the length of the play sessions used varied from a few seconds for each trial to a one hour session. Where two objects were available and a single action was of interest (feeding a toy horse with a cup) Fein (1975) found that subjects performed the action even in the brief interval allowed. It may be that a familiarization period not mentioned in the published report preceded this task. Watson and Fischer (1977) report no spontaneous pretending when a three-minute free-play time was provided immediately upon the child's arrival at the laboratory. The objects presented in this study did not suggest a single pretend act as directly as the horse and cup. Assessment time in the other studies ranged from 12 to 60 minutes. Since the experimenter is dependent upon the child to demonstrate the behaviors of interest, it would seem that a longer session provides a more valid assessment. The briefer the session, the more critical the need for a familiarization period to overcome the

inhibition of play in a strange situation. Also, the more active the experimenter's role in relation to the child, the more important is adequate familiarization to the examiner. Results obtained in the investigation discussed indicate that with a limited toy set (fewer than 15 objects) a fifteen minute assessment may be adequate. The length of the session needs to be balanced, of course, with other constraints on the research.

Reliability of observations must be considered in evaluating studies of natural behavior. Some of the approaches to play study discussed involve identifying specific behaviors (e.g., Lowe & Costello, 1976), while others involve classification of each play act based on given criteria (e.g., Nicolich, 1977). Table 3 includes interrater reliabilities for the studies where these were reported. These have been satisfactory, in general. Methods of recording the basic data vary (Table 3). When the behaviors of interest are listed in advance a checklist procedure can be used. If there is interest in all play behaviors or all pretend play, investigators have videotaped the session or used audio-taped narration of the ongoing action recorded by an observer. These data can be coded later into relevant categories. When audio-narration has been used, reliability is usually computed on judgments based on transcripts derived from the tapes, rather than on the observations themselves. If coding involves difficult distinctions and attention to a variety of behaviors videotaping becomes the method of choice, considered essential by some investigators (Inhelder et al., 1972).

Special mention should be made of the problem of segmenting the natural stream of behavior into assessable units. Jeffree and McConkey found that when two raters observed the play of normal subjects one of every five play observations coded was unique. That is, although there was agreement on what had occurred in a given episode, there was a lack of agreement about what episodes to code. However, the investigators report that few of the episodes coded by only a single investigator were greater than five seconds in length. Nicolich (1977) suggests segmenting videorecorded play into episodes based on object contacts before proceeding with further coding.

It is apparent that the optimum technique for studying symbolic play has yet to be devised. Different strategies are called for based on the goals of the research. If study of the nature of symbolic play is the main goal a different technique will be selected than if an estimate of symbolic play functioning is to be compared with other variables. The former must address the ambiguities involved directly, while the latter may prefer to gloss over some issues in the name of obtaining an expedient assessment that is comparable across subjects, even if its relation to the natural behavior is more questionable.

Symbolic Play as a Variable for Comparison with Other Areas of Development

Recently symbolic play has been included in a variety of studies for comparison with other areas of behavior. These include psychometric assessment of cognitive functioning, sensorimotor development, language development, and concept development among other variables.

While it is beyond the scope of this review to consider the outcome of these studies, some comments are in order concerning the choice of method for future studies including an assessment of symbolic play ability. A first consideration is that the definition of symbolic play used should be clearly specified, and the behavior used as criteria described in detail. A finding that this or that variable is unrelated to symbolic play is meaningless otherwise. While investigators focusing on symbolic play are in general agreement about its definition investigators whose major interest is in other areas vary considerably in behavior they will accept as symbolic play. Folger and Leonard (in press), for example, do not include self-pretend in their definition of symbolic play.

Frequency, proportion, and variation of pretend activity have all been used to represent the play variable. Highest level of play observed, and proportions of activities at various levels have been used in studies focusing on structural changes in symbolic play. Using the check list approach yields a score representing the number of codable acts performed by the subject. All of these measures show a general increase between the ages of 1 and 3. Total reliance on frequency or proportion of pretend is probably unwise, particularly at the later ages. There are individual differences in the frequency of pretend and its growth (Nicolich, 1977). As pretending becomes more complex, a single sequence may continue for up to 15 minutes with concomitant decline in the number of high level episodes. A measure of time engaged in pretend may help correct for this. McConkey (Note 5) includes the length of the longest sequence of

pretend play in numbers of imaginative actions as a measure of the maturity of symbolic play.

To our knowledge, the most psychometrically secure play assessment technique available is the published Symbolic Play Test (Lowe & Costello, 1976), although the authors consider it a pilot effort and norms are based on British children. Both test-retest and split-half reliabilities are reasonable. The scores form a satisfactory Guttman scale. In addition to its face validity, the authors report that scores were predictive of language ability several months later. The limitation of this approach is that the discrete presentation of a limited number of objects does not allow for a broad assessment of low level skills or for the occurrence of play combinations. Nicolich (1977) presents a system which allows for coding of such qualitatively advanced behaviors. Transitions in play were found to precede or co-occur with analogous transitions in language (Nicolich, 1975). However this method of assessment has not been normed on any general population, and detailed procedures for its use have not been published. McConkey (Note 5) provides a check list method which includes provision for coding play combinations, but this approach has not yet been used with normal subjects. Although the Lowe and Costello test does not allow measurement of specific qualitative changes in play, it should provide a score which is a good general estimate of a given subject's functioning in symbolic play. Until research is conducted in which spontaneously occurring pretend play in natural conditions is compared with play under more formal assessment conditions selection of methods for measuring the ability to engage in symbolic play will continue to be difficult.

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Table 1

A Comparison of Developmental Categories of Symbolic Games

Piaget (1962)	Lezine (1973) Inhelder, Lezine, Stambak & Sinclair (1972)	Nicolich (1977)	Fenson (Note 3)
Sensorimotor Stage V Realistic treatment of objects out of context of their actual use e.g. touch comb to hair	Same as Piaget	(1) Pre-symoblic scheme same as Piaget	Object-directed acts
Sensorimotor Stage VI Pretends at own activities	Same as Piaget	(2) Auto-symbolic acts same as Piaget	Self-directed symbolic acts Same as Piaget
Symbolic Stage I Types IA and IB Projects own activities onto doll or others Pretends at others' activities	Passive doll pretend (kissed, hugged, rocked) Active doll pretend (fed, groomed, dressed)	(3) Single scheme symbolic games same as Piaget (4.1) Single scheme symbolic combinations e.g. feed self, feed doll (4.2) Multi-scheme symbolic combinations e.g. feed doll, groom doll	Pretend and non-pretend acts directed at passive recipient Quasi-sequences: Same as Nicolich 4.1 (but includes non-pretend)

Table 1 (Continued)

Piaget (1962)	Lezine (1973) Inhelder, Lezine, Stambak & Sinclair (1972)	Nicolich (1977)	Fenson (Note 3)
Symbolic Stage I Types IIA, IIB Symbolic identification of one object with another or of child's body with other	Object substitution	(5.1) Planned symbolic games (single act) (5.2) Symbolic combinations including a planned act	True sequences: Same as Nicolich 4.2 With added criterion of orderly sequence (includes non-pretend)
Symbolic Stage I Type IIIA combinations of schemes pretended realistically	Doll is Source of Action e.g. place mirror in doll's hand so it can look		Active other directed symbolic acts (same as Lezine)

Table 2

Observed Qualitative Changes in Symbolic Play

	Naturalistic Studies			
	Lezine	Lowe (1975)	Nicolich (1977)	Fenson (Note 3)
Subjects Age Range Age in Months	77 (cross-sec. & long.) 10-40 months	244 12-36 months	5 (longitudinal) 14-26 months	72 13, 19, 24 months
12-13	Appropriate use of some objects			Self-directed acts Object-directed acts
14	Pretend self-feeding		Self-related pretend	
15	Doll is a passive partner in pretend hugged, kissed, rocked	Pretend self-feeding and grooming	Pretend with doll or mother	
16			Single action sequences	
18-19	Doll is an active partner fed, groomed, dressed	Doll related pretend begins	Sequences involving several actions	Doll related pretend Single action sequences

Table 2 (Continued)

	Naturalistic Studies			
	Lezine (1973)	Lowe (1975)	Nicolich (1977)	Fenson (Note 3)
20-22	Object substitution e.g. Paper = doll blanket	Doll related play grows Single action sequences	Planned sequences Object substitution	
24	Pretend doll is source of action e.g. place mirror in doll's hand so it can look Use of absent objects	Search for missing objects	Search for missing objects	Sequences involving several actions in appropriate order
30		Use of absent objects Doll active		

	Experimental Studies			
	Jeffree & McConkey (1976)	Fein (1975)	Fein, Branch & Diamond (Note 1)	Watson & Fischer (1977)
Subjects	2 subjects each	66	28	36
Ages	at 18, 24, 30, 36 42	22-27 mo.	20, 22, 26 mo.	14, 19, 24 mo.

Table 2 (Continued)

Experimental Studies

	Jeffree & McConkey (1976)	Fein (1975)	Fein, Branch & Diamond (Note 1)	Watson & Fischer (1977)
14				14 mo. Self-related pretend in response to a model
18	More pretend with proto.objects			19 mo. Self-pretend Passive doll pretend use of Substitute object in pretend 4/12 ss active doll
20	More pretend during and after modeling	Feed horse (after modeling)	After modeling Pretend increases 20-26 mo.	
24		Prototypical .93 Substitute Cup .79 Substitute horse .61 Substitute both .33	Highly proto. toys elicit more frequent pretend Interpretable sex differences	24 mo. Self-pretend Passive doll Substitute object Active doll

Table 3

Some Paradigms for Studying Symbolic Play

	Lezine (1973)	Lowe (1974)	Nicolich (1977)
Home or Lab	Experimental room.	Lab	Home
Mother Role	Absent	Present but not expected to be involved	Respond naturally do not suggest or initiate play
Experimenter Role	Present and name toys then move away and observe	Present sets of objects with minimum verbalization	Observe Remain uninvolved
Sess. Length Minutes	15	At child's discretion Maximum total 30 min.	30
Toys Available	Paper, sponge, spoon, plate, mug, pot, broom, feather duster, miniature baby bottle, small mirror, doll baby, teddy, cloth	Sets of Miniatures I girl doll (6½ cm) spoon, cup, saucer, comb, brush II girl doll (6½ cm) bed, blanket, pillow III boy doll (3 cm) table, chair, plate, fork, knife, tablecloth IV man (2½ cm), truck, trailer, 4 small wooden logs	Similar to Lezine with addition of books Manipulative toys, puzzles and duplicates of some object types

Table 3 (Continued)

	Lezine (1973)	Lowe (1974)	Nicolich (1977)
Modeling	No	No	No
Verbal Eliciting	No	No	No
Method of Recording	Notes and Videotape	"Complete record of actions and verbalizations:	Videotape and Notes
Reliability	Not reported	Not reported	.85

	Dunn and Wooding (1977)	Fenson (Note 3)	Jeffree & McConkey (1976)
Home or Lab	Home	"Lab Playroom"	"Wendy House" blocked off from classroom
Mother Role	In home working or relaxing	Reading magazine Respond normally do not suggest or initiate	Absent
Experimenter Role	Follow Child taking notes	Absent	Present toys model specified actions

Table 3 (Continued)

	Dunn and Wooding (1977)	Fenson (Note 3)	Jeffree & McConkey (1976)
Sess. Length Minutes	1 hour	20 min.	15 5-free play 5-model 5-post model
Toys Available	Child's own toys and household objects	Large variety chosen to encourage symbolic play and permit organizing/classifying Similar to Nicolich	Set I - Ragdoll 34 cm. dressed in jumper, pants, shoes, scarf (all removable), chair, bed, pillow, sheet, cup, spoon, comb Set II - "Junk" white cloth tied to look like doll, 2 boxes, pieces of wood, tin, plastic cone, duster, tea towel
Modeling	No	No	No/Yes
Verbal Elicitint	No	No	No/Yes
Method of Recording	Times notes audiotape	Taped narrative description of child behavior	Videotape
Reliability	Not reported	Not reported	.89

Table 3 (Continued)

	Fein (1975)	Fein, Branch & Diamond (Note 1) (Study I)	(Study II)	Watson & Fischer (1977)
Home or Lab	Laboratory	Home	Laboratory	Lab Playroom
Mother Role	Seated several feet from test table. Asked not to participate	Present not apparently involved	Present not apparently involved	Present - not involved in free play Help elicit modeled actions during request phase
Experimenter Role	Present toys Model feeding horse	One presents toys One records	Present toys Make play suggestions	Model pretend; leave room
Sess. Length Minutes	10 sec. pre-modeling 10 sec. post-modeling 10 sec. post-suggestion with each set of toys	10 warm up I 2 free play 8 suggestion 40 intervening II 2 free play 8 suggestion	15 warm up I 4 free play 8 suggestion II 4 free play 8 suggestion	3 min. free play modeling 8 min. post modeling play ? request perform every modeled action
Toys Available	I plush horse plastic cup II plush horse shell III stick horse plastic cup IV stick horse shell	I cup, spoon, fork, bowl, mug, spoon, blanket, doll, bottle, crib, truck, phone, comb II less prototypical objects paired with these	doll, crib, blanket, truck, phone, pot, cup, spoon, baby bottle, tissue	Red block of wood, plastic doll painted as butcher, pillow, cup, washcloth, gingerbread man doll

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80A

Table 3 (Continued)

	Fein (1975)	Fein, Branch & Diamond (Note 1) (Study I)	(Study II)	Watson & Fischer (1977)
Modeling	Yes	No	No	Yes
Verbal Eliciting	Yes	Yes	No/Yes	Yes
Method of Recording	Scored from behind one-way mirror	Scored by present observer	Scores by present observer	Videotape
Reliability	Not reported	.87	.87	1.00